CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

ORDER NO. 95-140

SITE CLEANUP REQUIREMENTS FOR:

AMERICAN MICROSYSTEMS INC.,
VALLCO PARK LTD., AND
KAISER FOUNDATION HEALTH PLAN INC.

for the property located at

3800 HOMESTEAD ROAD
SANTA CLARA
SANTA CLARA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board), finds that:

1. **Site Location:** The property is located at 3800 Homestead Road in Santa Clara (Site). The site is surrounded by Calabazas Creek and Marchese Orchards No. 1 to the east, Intersil/Siemens Superfund site (Intersil/Siemens) to the west, a residential neighborhood to the north, and Tandem Corporation to the south (see attached map).

2. **History of Ownership and Site Use:** American Microsystems Inc.(AMI), occupied the site from 1967 to 1988. They leased the property from Vallco Park Ltd. in 1966. AMI was formed in 1965 and incorporated in California in 1966. AMI was acquired by Gould, now Gould Electronics Inc. (Gould), in February of 1982. In 1988 all operations were discontinued and all functions were transferred to the AMI facility at Pocatello, Idaho. The lease was terminated and the property was returned to Vallco Park Ltd. In November of 1988 Japan Energy Corporation purchased Gould. Both AMI and Gould are now subsidiaries of Japan Energy Corporation. In 1988, Ferma Corporation, retained by Vallco Park Ltd., demolished all structures on the site. Vallco Park sold the property to Tandem Corporation in December of 1989, and Tandem sold the property to Kaiser Foundation Health Plan in 1993. Currently Kaiser plans to construct a hospital on the 15 acre site.

   AMI had 5 buildings on the site. Building 10-100 contained a small wafer fabrication area. AMI manufactured transistors by the metal oxide-silicon (MOS) method. The effluent from this process was piped to a sump east of the building designated a "TCE Separator-Neutralization System". The acidic waste was neutralized with ammonia and released to the sanitary sewer. This sump became inactive between 1969-1970. AMI

closed the sump in October of 1982 and removed the sump in 1989. Confirmatory soil samples showed traces of ethylbenzene at a depth of 12 feet.

Building 200-300-400 originally contained four wafer fabrication areas. This structure also contained a photolithographic area where AMI fabricated the masks necessary to manufacture MOS devices. A system of waste collection trenches, approximately 2 feet wide and 2 to 4 feet deep, was built into the slab. These trenches contained a system of piping which collected acidic wastes and transported these wastes to the neutralization system. The original neutralization sump was designed as combination solvent separator and neutralization vessel.

Building 500-600 was an assembly and test facility. There were VOC degreaser facilities in this building. VOCs may have been used at this building as degreasers.

In 1970, a 250-gallon steel tank for containing solvent wastes was buried south of the manufacturing building 200-300-400. A piping system was installed in the trenches to collect used solvents and transport these wastes to the tank. The tank was removed in 1983.

AMI's chemical use statement indicates that the facility used primarily acids and bases. They also used volatile organic compounds (VOCs) such as trichloroethylene (TCE), freons, and trichloroethane (TCA).

3. **Named Dischargers** AMI is a discharger because its past chemical use and activities caused the contamination at this site. Vallco Park Ltd. is a discharger because they owned the property during AMI's occupancy. Kaiser Permanent is a discharger because they are the current property owner. Vallco Park Ltd. and Kaiser will be responsible for compliance only in the event that other named dischargers fail to comply with the requirements of this order. The Board reserves its jurisdiction to consider naming Japan Energy Corporation and/or Gould as dischargers in the future.

   If additional information is submitted indicating that other parties caused or permitted any waste to be discharged on this site where it entered or could have entered waters of the state, the Board will consider adding that party's name to this order.

4. **Hydrogeology** The site is underlain by a sequence of permeable sands and gravels and relatively impermeable clays and silts. The sands and gravels are deposited as fluvial channels interfingering with the silts and clays deposited in overbank and mudflat environments. The individual channel deposits are lenticular and discontinuous and may occur as isolated bodies enclosed in fine grain sediments. Most of these channel deposits are believed to be hydraulically interconnected. These sand and gravel layers in the vadose zone comprise the perched groundwater zone in this area.

   Groundwater is first encountered at approximately 50-80 feet below the ground surface

(BGS) in the perched zone. The vadose zone stratigraphy can generally be subdivided into three zones of permeable materials separated by two relatively continuous zones of aquitard materials. The upper sand zone, generally from 45 to 15 feet BGS, contains discontinuous, relatively thin channel deposits in the western and southern parts of the site, and a thick zone of course-grained material in the northeast. The middle sand zone, generally from 65 to 45 feet BGS, is the most continuous and widespread sandy interval. In places, this zone is saturated with perched groundwater. The occurrence of water in this middle sand zone appears to be controlled by channel sand stratigraphy and the continuity of the underlying aquitard. The lower sand zone, generally from 105 to 65 feet BGS, contains the thickest section of sand and gravel, but the sands are discontinuous and interfinger with thick intervals of silt and clay.

The A-zone occurs at approximately 95 to 120 feet BGS. The A-zone stratigraphy is highly variable from mostly clay and silt, with one or two thin, water-bearing sands to mostly coarse-grained sediments. The B-zone occurs at approximately 130 to 150 feet BGS and the C-zone occurs at approximately 180-200 feet BGS. The geologic sections indicate that water-bearing zones and aquitard material are laterally discontinuous. The transition from A- to B-zone is poorly defined and does not appear to be marked by a laterally continuous aquitard. There may be some vertical hydraulic connection where the transition is characterized by thick sections of clayey sand and gravel. The B-zone contains thick intervals of sand and gravel that interfinger with predominantly clay and thin beds of sand.

Groundwater flow direction in the perched zone is not established because of the discontinuity of the saturated sediments within this unit. Natural groundwater flow in the A- B- and C-zones is generally to the north/northeast. However, it is likely that the direction of groundwater flow in the A- and B-zones at AMI onsite and offsite has been impacted due to groundwater extraction at AMI and Intersil/Siemens.

Groundwater in this area moves in a "stair-stepping" manner. The following describes this process. Groundwater recharge in the area is principally the result of irrigation and rainfall on pervious areas and infiltration of surface runoff in Calabazas Creek. This groundwater recharge moves vertically downward in the vadose zone until it is intercepted by either a perched groundwater zone or the A-zone. In a perched zone, groundwater spreads laterally or until it reaches a boundary or until a balance between inflowing and outflowing water is achieved, and the groundwater then resumes its downward vertical transit. To maintain the continuity of groundwater recharge moving through the vadose zone, a saturated (perched) unit will form allowing groundwater to spread over a larger area. The direction of groundwater movement in a particular perched unit is governed by the slope of the free surface of that perched unit, which can also be influenced by the slope of the underlying low hydraulic conductivity interface. Where the perched groundwater spreads laterally to the edge of a low hydraulic conductivity unit, it can drain vertically, and unsaturated conditions will resume. In this manner, a particular parcel of groundwater recharge may be offset laterally from the

overlying area where it infiltrated the near-surface deposits. This stair-stepping process is independent of the local A-zone groundwater flow direction.

In the A-zone, most of the groundwater moves laterally in the general direction of the groundwater flow, while some groundwater moves vertically downward through the aquitard separating the A- and B-zones. The absence of this aquitard in some areas facilitates the downward vertical movement of groundwater between A- and B-zones. Groundwater movement within and between B- and C- zones is similar to that in the A-zone.

5. Remedial Investigation

VOCs were detected in soil borings during sampling events in July 1989, December 1989 and January 1990. Freon 113, cis-1,2 DCE, TCE, PCE, ethylbenzene, and xylenes were detected in soil samples at the site. Specific concentrations of these constituents varied widely. TCE was the most commonly identified VOC, with concentrations ranging from .005 mg/kg to 4.3 mg/kg in soil behind building 300. PCE (.009 mg/kg) and cis-1,2 DCE (.008 mg/kg) were detected in one sample. Ethylbenzene and xylenes were detected at concentrations of 5.7 mg/kg and 27 mg/kg, respectively in one sample. No semivolatile organic compounds or metals above TTLC (total threshold limit concentration) or ten times the STLC (soluble threshold limit concentration), were detected in soil. There has been only one soil boring near building 500-600, in the northwestern portion of the site. In general most of the soil investigation has been conducted behind building 200-300-400, and along the eastern property boundary.

In groundwater, chloroform, cis-1,2-DCE, 1,4-dichlorobenzene, 1,2-dichlorobenzene, 1,1,1-TCA, TCE, Freon 113, and PCE were detected. TCE has been detected in perched groundwater at concentrations as high as 1500 μg/l, in a well under building 300.

In the A-zone, elevated VOC concentrations were detected in some wells along Calabazas Creek, across the northern part of the property and off-site at the corner of London and Vireo Avenues. TCE has been detected in onsite wells at concentrations as high as 120 μg/l, east of building 100. In the offsite wells, TCE has been detected in concentrations, initially, as high as 300 μg/l east of Calabazas Creek and cross-gradient form the site at Marchese Orchards No. 1. However, subsequent samples have been mostly below 100 μg/l. Downgradient of the site (northeast of the site) and east of the creek TCE has been detected in concentration as high as 220 μg/l.

In the B-zone the highest concentrations of TCE were again detected in samples along or east of Calabazas Creek. In the onsite wells the highest concentration detected was 180 μg/l east of building 100, and in the offsite wells the highest concentration detected was 488 μg/l, east of Calabazas Creek and downgradient of the site (northeast of the site).

A sewer line runs parallel to Calabazas Creek between the creek and the AMI property

to Homestead Road. A sewer lateral connects to this sewer from a known source area at AMI (vicinity of building 300). Since sewer lines often leak, it is possible that chemicals got into the sewer line and eventually leaked into the groundwater along AMI's eastern property line.

TCA has been detected below MCLs in wells in the A-zone in the northwestern portion of the property near building 500-600.

Investigation conducted to date including VOC concentrations in soil and groundwater, and chemical use history by AMI point to a known source behind building 300, and potential sources along the eastern property boundary, the former TCE neutralization tank east of building 100, and building 500-600. AMI investigated the vicinity of the sewer line, and determined that VOC concentrations in soil are well below the action level of 1 ppm. The investigation around the former neutralization tank and building 500-600 is incomplete.

In the C-zone TCE and Freon 113 have been detected consistently for the past 7 quarters. Although concentrations of Freon 113 are well below MCLs, and TCE concentrations are at or below MCLs, this rise from non-detect to some contaminant concentration indicates that chemicals may be migrating downward from A- and B-zones to the C-zone. There is only one well in the C-zone, which is not sufficient to properly characterize the extent of chemicals in the C-zone.

Most of the groundwater investigation has also been conducted behind building 200-300-400, along the eastern property boundary, and in the offsite area. There are a few wells in the middle of the property, downgradient of the identified source area, and in the northern and northwestern portion of the site, near building 500-600. The extent of the offsite plume has not been fully defined in A- B- and C-zones.

6. Interim Remedial Measures

AMI has implemented soil and groundwater interim remedial measures (IRM) at this site, and has monitored groundwater since 1990.

6.1. Interim Soil Remedial Measures

AMI evaluated various remedial aeration alternatives for VOC impacted soils. The soil cleanup levels used for IRMs were 1 ppm total VOCs, and 10 times the STLC for metals. Metals were not detected at concentrations above this limit, and therefore no IRMs were proposed for metal-impacted soils. Soils south of former building 300 were impacted by TCE and therefore required remediation.

AMI evaluated several alternatives for remediating the TCE impacted soil behind building 200-300-400, including in situ soil vapor extraction, in situ aeration, above

ground soil aeration, above ground soil vapor extraction, and disposal at a Class I landfill. AMI chose in situ soil vapor extraction as the most suitable and cost effective soil remedy. AMI installed the soil vapor extraction system in July of 1990, and began operation in February of 1991. AMI operated the system for approximately 14 months. In August of 1993 the Board approved AMI's request to remove the SVE system with some conditions. The SVE system removed approximately 160 pounds of VOCs.

6.2. Interim Groundwater Remedial Measures

Groundwater data from the site indicated that VOCs have impacted the groundwater in the perched, A-zone, B-zone and the C-zone. The groundwater cleanup goal used during development of the groundwater IRMs is to prevent any further movement of impacted groundwater off the AMI site. This is a hydrogeologic cleanup goal rather than a health- or risk-based cleanup level such as MCLs.

The selected treatment option for the AMI site is pump and treat. This option consists of extracting groundwater and treating it above ground. AMI evaluated several alternatives for extraction and several alternatives for treatment of the extracted groundwater. AMI chose extraction wells and air stripping for treatment of the extracted groundwater. Following treatment, effluent is discharged to Calabazas Creek under a general NPDES permit.

AMI conducted slug tests and pump tests to determine the hydraulic properties for the perched, A- and B-zones. These data were used to estimate the capture areas for the extraction wells. There is one extraction well in the perched zone, 2 extraction wells in the A-zone and 2 extraction wells in the B-zone. The perched zone is pumped periodically. AMI installed a well in the C-zone to monitor the water quality in that aquifer. Historical data in this well indicate that concentrations of TCE and Freon 113 have been increasing in the C-zone. This may be an indication of groundwater contamination migrating downward into deeper aquifers.

The onsite groundwater extraction system started operation in March of 1993, and the offsite extraction started operation in January of 1994. The system has removed approximately 72 pounds of VOCs as of March of 1995. The system as a whole must be evaluated to determine its effectiveness.

6.3 Groundwater Monitoring

AMI has been monitoring groundwater elevations and chemical concentrations on-site and off-site since 1990, on a quarterly basis. Some wells are sampled quarterly, while some others are sampled semi-annually or annually. AMI also monitored the SVE system while it was in operation.

7. Adjacent Sites

The Intersil/Siemens Superfund site is adjacent to and west of the AMI facility. The groundwater plume from this site has been defined and site investigation and remediation has been underway since the early 1980's. The Board adopted a joint Final Site Cleanup Requirements for Intersil/Siemens on August 15, 1990. EPA issued a concurring Record of Decision (ROD) at the same time. Intersil and Siemens have on-site and off-site groundwater extraction systems in operation. Operation of the groundwater extraction system at this site appears to have impacted the natural groundwater flow direction. The change in direction of groundwater flow from northerly to a northwesterly direction, may have impacted the movement of the plume originating at AMI. Groundwater extraction systems at AMI and Intersil/Siemens facilities should be operated such that any further horizontal and vertical migration of the contaminants is prevented.

It does not appear that there is significant commingling of the groundwater plumes from Intersil/Seimens and AMI.

8. **Regulatory Status:** AMI is currently not subject to a Board order.

9. **Basin Plan:** The Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on December 17, 1986, and the State Board approved it on May 21, 1987. The Board has amended the Basin Plan several times since then. The Basin Plan defines beneficial uses and water quality objectives for the waters of the State, including groundwaters and surface waters.

The potential beneficial uses of groundwater underlying and adjacent to the site include:

a. Industrial process water supply
b. Industrial service supply
c. Agricultural supply
d. Municipal and domestic supply

Although shallow groundwater (perched, A-zone, B-zone and C-zone) underlying and adjacent to the site is not currently used for any of the above purposes, it recharges the deeper aquifer (300 feet bgs and deeper) which is a source of municipal water supply. The Cities of Santa Clara and Sunnyvale have three drinking water wells downgradient of the former AMI and Intersil/Siemens facilities.

The existing and potential beneficial uses of Calabazas Creek include:

a. Agricultural supply
b. Groundwater recharge
c. Navigation
d. Water contact recreation
e. Non-contact water recreation
f. Warm fresh water habitat

g. cold fresh water habitat
i. Wildlife habitat

10. **Other Board Policies:** Board Resolution No. 88-160 strongly encourages dischargers of extracted, treated groundwater from site cleanups to reuse it or discharge it to the sanitary sewer.

Board Resolution No. 89-39, "Sources of Drinking Water", defines potential sources of drinking water to include all groundwater in the region, with limited exceptions for areas of high TDS, low yield, or naturally -high contaminant levels.

11. **State Water Board Policies**: State Water Board Resolution No. 88-16, "Statement of Policy with respect to Maintaining High Quality of Waters in California," applies to this discharge and requires attainment of background levels of water quality, or the highest level of water quality which is reasonable if background levels of water quality cannot be restored. Non-background cleanup levels must be consistent with the maximum benefit to the people of the State, not unreasonably affect present and anticipated beneficial uses of such water, and not result in exceedance of applicable water quality objectives.

State Water Board Resolution No. 92-49,"Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304," applies to this discharge. This order and its requirements are consistent with the provisions of Resolution No.92-49, as amended.

12. **Basis for 13304 Order:** The discharger has caused or permitted waste to be discharged or deposited where it is or probably will be discharged to waters of the State and creates or threatens to create a condition of pollution or nuisance.

13. **Cost Recovery**: Pursuant to Section 13304 of the Water Code, the discharger is hereby notified that the Regional Board is entitled to, and may seek reimbursement for, all reasonable costs actually incurred by the Regional Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order.

14. **CEQA**: This action is an Order to enforce the laws and regulations administered by the Board. This action is categorically exempt from the provisions of CEQA pursuant to Section 15321 of the Resources Agency Guidelines.

15. **Notification**: The Board has notified the dischargers and all interested agencies and persons of its intent under California Water Code Section 13304 to prescribe Site Cleanup Requirements for the dischargers and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.

16. **Public Hearing:** The Board, at a public meeting, heard and considered all comments pertaining to this discharge.

IT IS HEREBY ORDERED, pursuant to Section 13304 of the California Water Code, that the dischargers shall cleanup and abate the effects described in the above findings as follows:

A. PROHIBITIONS

1. The discharge of wastes or hazardous materials in a manner which will degrade water quality or adversely affect beneficial uses of the waters of the State is prohibited.

2. Further significant migration of pollutants through subsurface transport to waters of the State is prohibited.

3. Activities associated with the subsurface investigation and cleanup which will cause significant adverse migration of pollutants are prohibited.

B. TASKS

The discharger shall comply with the requirements of this Order, in accordance with the following tasks:

1. Workplan for Additional Source Investigation
COMPLIANCE DATE: **September 1, 1995**

submit a technical report acceptable to the Executive Officer that proposes to investigate potential source areas that have not yet been adequately investigated including the former neutralization tank east of building 100 and the vapor degreaser area and related utilities in building 500-600. The workplan shall summarize prior source investigation and propose additional investigation to identify potential sources (including tanks, sumps, and utility lines) and adequately investigate underlying soils. One way to address this task is with a soil gas survey and soil sampling. The workplan should describe the location, number and depth of soil-gas probes and soil borings, and the rationale for choosing those locations.

2. Completion of Additional Source Investigation
COMPLIANCE DATE: **January 1, 1996**

Submit a technical report acceptable to the Executive Officer documenting the completion of necessary tasks in TASK 1 workplan. If additional sources of contamination are identified, the report shall include a proposal for conducting soil remediation in source areas, including a schedule of

implementation.

3. Workplan for Additional Groundwater Investigation
COMPLIANCE DATE: **March 1, 1996**

Submit a workplan acceptable to the Executive Officer that proposes to define the extent of the groundwater contamination in A- B and C-groundwater zones. The workplan shall include but not be limited to the location and length of screen for monitoring wells, and the rationale for choosing those locations.

4. Completion of Additional Groundwater Investigation
COMPLIANCE DATE: **August 1, 1996**

Submit a technical report acceptable to the Executive Officer which documents the result of the additional groundwater investigation. The report shall include but not be limited to potentiometric maps of all water-bearing zones on-site and offsite; chemical concentration maps for all chemicals detected above MCLs, evaluation of possible vertical migration of groundwater contamination; explaining the reason for any increase in chemical concentrations or unusual trends.

Data collected in Tasks 1 through 4, and other available data, will be used to evaluate and determine the need for further remedial action.

5. Evaluate Effectiveness of Groundwater Remediation System
COMPLIANCE DATE: **August 1, 1996**

Submit a technical report acceptable to the Executive Officer which evaluates the effectiveness of the groundwater extraction system. The report shall include, but not be limited to, maps of actual capture zones determined by field measurements in all water-bearing zones; most recent contaminant plume maps in all water-bearing zones; analysis of the impacts that the extraction system at Intersil/Siemens may have on the AMI's system and vice-versa; discussion of significant increases or decreases and unusual trends in chemical concentrations, effectiveness of the system in preventing vertical migration of the plume, evaluation of increased pumping in the perched zone, and groundwater elevation data.

6. Design of Expanded Groundwater Extraction and Treatment System
COMPLIANCE DATE: **November 1, 1996**

In the event that either the report required in Task 4 or 5 determines that existing groundwater extraction system is not adequately containing the

contaminant plumes, based on criteria established in Prohibition 2, submit a technical report acceptable to the Executive Officer which contains the design information for the expanded groundwater extraction and treatment system. This document shall include, but not be limited to rationale for the location of any proposed extraction well; an estimate of the capture zone that can be established by the wells; and the rate of pumping. The document shall include a schedule of construction and the projected date of system start up.

If the discharger determines that expanding the groundwater extraction system is not the most effective approach, then upon approval of the Executive Officer, the discharger may propose an alternate remedial measure.

7. Implementation of the Expanded Groundwater Extraction and Treatment System

COMPLIANCE DATE: **According to Schedule in Task 6 Approved by the Executive Officer**

Submit a technical report acceptable to the Executive Officer documenting the completion of the tasks identified in Task 4.

8. Proposed Final Remedial Actions and Cleanup Standards

COMPLIANCE DATE: **November 1, 1997**

Submit a technical report acceptable to the Executive Officer containing:

a. Results of the remedial investigation
b. Evaluation of the installed interim remedial measures
c. Feasibility study evaluating alternative final remedial actions
d. Risk assessment for current and post-cleanup exposures
e. Recommended final remedial actions and cleanup standards
f. Implementation tasks and time schedules

Items b and c should include projection of cost, effectiveness, benefits , and impact on public health, welfare, and environment for each alternative. Items a through c should be consistent with the guidance provided by Subpart F of the National Oil and Hazardous Substances Pollution Contingency Plan (40 CFR part 300); Section 25356.1 (c) of the California Health and Safety Code; CERCLA guidance documents with reference to Remedial Investigation, Feasibility Studies, and Removal Actions; and the State Water Resource Control Board's Resolution No.

92-49 as amended ("Policies and Procedures for Investigation and Cleanup and Abatement of Discharges Under Water Code Section 13304"), and State Board's Resolution No. 68-16. ("Statement of Policy with Respect to maintaining High Quality of Waters in California." The proposed remedial alternatives shall reduce the volume, mobility, and toxicity of pollutants.

9. **Delayed Compliance:** If the discharger is delayed, interrupted or prevented from meeting one or more of the completion dates specified in this Order, the discharger shall promptly notify the Executive Officer. In the event of such delays, the Board may consider modifications of task completion dates established in this Order.

C. PROVISIONS

1. **No Nuisance:** The storage, handling, treatment or disposal of polluted soil or groundwater shall not create a nuisance as defined in Section 13050(m) of the California Water Code.

2. **Good O&M:** The discharger shall maintain in good working order and operate as efficiently as possible any facility or control system installed to achieve compliance with the requirements of this Order.

3. **Cost Recovery:** The discharger shall be liable, pursuant to Section 13304 of the Water Code, to the Board for all reasonable costs actually incurred by the Board to investigate unauthorized discharges of waste and to oversee cleanup of such waste, abatement of the effects thereof, or other remedial action, required by this Order. If the site addressed by this Order is enrolled in a State Board-managed reimbursement program, reimbursement shall be made pursuant to this Order and according to procedures established in that program. Any disputes raised by the discharger over the reimbursement amounts for methods used in that program shall be consistent with the dispute resolution procedures of that program.

4. **Access to Site and Records:** The discharger shall permit the Board or its authorized representatives, in accordance with Section 13267 (c) of the California Water Code, access to copy any records required to be kept under the terms and conditions of this Order.

5. **Self-Monitoring Program:** The discharger shall comply with the Self-Monitoring Program attached to this Order and as may be amended by the Executive Officer.

6. **Contractor/Consultant Qualifications:** All hydrogeological plans,

specifications, reports and documents shall be signed by or stamped with the seal of a registered geologist, engineering geologist or professional engineer.

7. **Lab Qualifications:** All samples shall be analyzed by State certified laboratories or laboratories accepted by the Board using approved EPA methods for the type of analysis to be performed. All laboratories shall maintain quality assurance/quality control records for Board review.

8. **Document Distribution:** Copies of all correspondence, reports, and documents pertaining to compliance with the requirements of this Order shall be provided to the following agency:

    a. Santa Clara Valley Water District (Tom Iwamura)

    The discharger shall provide copies of cover letters, title page, table of contents and the executive summaries of above compliance reports to the following agencies:

    a. Santa Clara County Health Department (Lee Esquibel)
    b. California EPA/DTSC Site Mitigation Branch (Barbara Cook)
    c. City of Santa Clara
    d. City of Sunnyvale
    e. City of Cupertino

    The Executive Officer may require the discharger to provide copies to other parties, such as the U.S. Environmental Protection Agency, Region IX, and the local repository for public use.

    The discharger is encouraged to provide all technical reports to Intersil and Siemens facilities. These companies operate remedial systems in the area, and work performed at this site may impact their systems.

9. **Reporting of Changed Owner or Operator:** The discharger shall file a technical report on any changes in site occupancy or ownership associated with the property described in this Order.

10. **Reporting of Hazardous Substance Release:** If any hazardous substance is discharged in or on any waters of the State, or discharged and deposited where it is, or probably will be discharged in or on any waters of the State, the discharger shall report such discharge to this Board, at (510) 286-1255 on weekdays during office hours from 8 AM to 5 PM, and to the Office of Emergency Services at (800) 852-7550 during non-office hours. A written report shall be filed with the Board within five (5) working days and shall contain information relative to: the nature of the waste or pollutant, quantity involved,

duration of incident, cause of spill, Spill Prevention, Control and Countermeasure Plan (SPCC) in effect, if any, estimated size of affected area, nature of effects, corrective measures that have been taken or planned, and a schedule of these activities, and persons, notified.

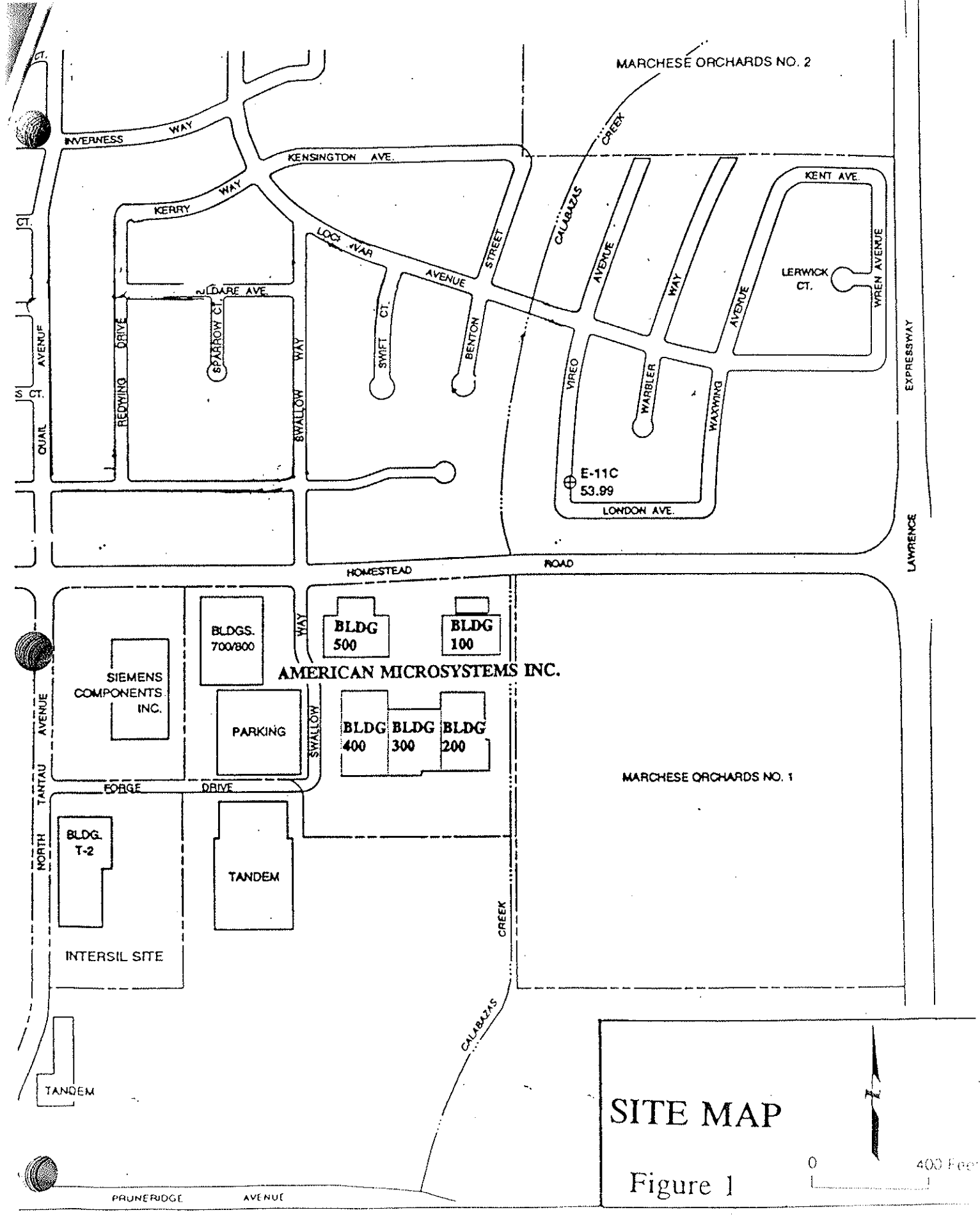
12. **Periodic SCR Review:** The Board will review this Order periodically and may revise it when necessary. The discharger may request revisions and upon review the Executive Officer may recommend that the Board revise these requirements.

I, Steven R. Ritchie, Executive Officer, do hereby certify that the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on June 21, 1995.

Steven R. Ritchie
Executive Officer

FAILURE TO COMPLY WITH THE REQUIREMENTS OF THIS ORDER MAY SUBJECT YOU TO ENFORCEMENT ACTION, INCLUDING BUT NOT LIMITED TO: IMPOSITION OF ADMINISTRATIVE CIVIL LIABILITY UNDER WATER CODE SECTIONS 13267 OR 13350, OR REFERRAL TO THE ATTORNEY GENERAL FOR INJUNCTIVE RELIEF OR CIVIL OR CRIMINAL LIABILITY

Attachments: Figure 1, Site Map
Self-Monitoring Program



SITE MAP

Figure 1

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD
SAN FRANCISCO BAY REGION

SELF-MONITORING PROGRAM FOR:

AMERICAN MICROSYSTEMS INC.,
VALLCO PARK LTD., AND
KAISER FOUNDATION HEALTH PLAN INC.

for the property located at

3800 HOMESTEAD ROAD
SANTA CLARA COUNTY

1. **Authority and Purpose:** The Board requests the technical reports required in this Self-Monitoring Program pursuant to Water Code Sections 13267 and 13304. This Self-Monitoring Program is intended to document compliance with Board Order No. 95-140 (site cleanup requirements).

2. **Monitoring:** The discharger shall measure groundwater elevations quarterly in all monitoring wells, and shall collect and analyze representative samples of groundwater according to the schedule in Table 1. The discharger shall sample any new monitoring or extraction wells quarterly and analyze groundwater samples for the same constituents as shown in Table 1. The discharger may propose changes in Table 1; any proposed changes are subject to Executive Officer approval.

3. **Quarterly Monitoring Reports:** The discharger shall submit quarterly monitoring reports to the Board no later than 30 days following the end of the quarter (e.g. first quarter reports are due April 30). The first quarterly report shall be due on April 30, 1995. The reports shall include:

    a. Transmittal Letter: The transmittal letter shall discuss any violations during the reporting period and actions taken or planned to correct the problem. The letter shall be signed by the principal executive officer or a duly authorized representative of that person, and shall include a statement by the official, under penalty of perjury, that the report is true and correct to the best of the official's knowledge.

    b. Groundwater Elevations: Groundwater elevation data shall be measured quarterly and presented in tabular form. A groundwater elevation map shall be prepared for each monitored water-bearing zone. Historical groundwater elevations shall be included in the fourth quarterly report

each year.

c. Groundwater Analyses: Groundwater sampling data shall be presented in tabular form, and an isoconcentration map shall be prepared for key contaminants for each monitored water-bearing zone, as appropriate. Results of any additional analyses performed by the dischargers shall also be submitted. The report shall indicate the analytical method used and detection limits obtained for each reported constituent. Historical groundwater sampling results shall be included in the quarterly reports. The report shall describe any significant increases in contaminant concentrations since the last report, and any measures proposed to address the increases. Supporting data, such as lab data sheets, need not be included (however, see record keeping - below).

d. Groundwater Extraction: The report shall include groundwater extraction results in tabular form, for each extraction well and for the site as whole, expressed in gallons per minute and total groundwater volume for the quarter. The report shall also include contaminant removal results, from groundwater extraction wells and from other remediation systems (e.g. soil vapor extraction), expressed in units of chemical mass per day and mass for the quarter. Historical mass removal results shall be included in the fourth quarterly report each year.

e. Status Report: The quarterly report shall describe relevant work completed during the reporting period (e.g. site investigation, interim remedial measures) and work planned for the following quarter.

4. **Violation Reports:** If the discharger violates requirements in the Site Cleanup Requirements, then the discharger shall notify the Board office by telephone as soon as practicable once the discharger has knowledge of the violation. Board staff may, depending on violation severity, require the discharger to submit a separate technical report on the violation within 5 working days of telephone notification. The written report shall include time, date, and person notified of the incident. The report shall include pertinent information explaining reasons for the noncompliance, magnitude of incident, and steps taken to mitigate and prevent the problem from recurring.

5. **Other Reports:** The discharger shall notify the Board in writing prior to any site activities, such as construction or underground tank removal, which have the potential to cause further migration of contaminants or which would provide new opportunities for site investigation (e.g. removal of a building).

6. **Record Keeping:** The discharger or his/her agent shall retain data generated for the above reports, including lab results and QA/QC data, for a minimum of

six years after origination, and shall make them available to the Board upon request.

7. **SMP Revision:** Revisions to the Self-Monitoring Program may be ordered by the Executive Officer, either on his/her own initiative or at the request of the discharger. Prior to making SMP revisions, the Executive Officer will consider the burden, including costs, of associated self-monitoring reports relative to the benefits to be obtained from these reports.

TABLE 1

Well #	Sampling Frequency	Analyses	Well #	Sampling Frequency	Analyses
P-1	SA	8010	EW-2A	Q	8010
P-2	SA	8010	EW-3A	Q	8010/8240
P-3	SA	8010	LF-3	A	8010
P-5	SA	8010	LF-4	Q	8010
E-2	A	8010	E-8B	Q	8010/8240
E-4	SA	8010	E-11B	Q	8010
E-5	A	8010	E-12B	Q	8010
E-6	SA	8010	E-14B	Q	8010
E-7	Q	8010/8240	E-15B	Q	8010
E-8A	Q	8010	EW-1B	Q	8010/8240
E-9	A	8010	EW-2B	Q	8010
E-10	Q	8010	HS-1B	Q	8010
E-11A	Q	8010	BM-1B	Q	8010
E-12A	Q	8010	KB-1B	Q	8010
E-13	A	8010	LF-1B	Q	8010
AMI-1A	Q	8010	VM-1B	Q	8010
AMI-2A	Q	8010	E-11C	Q	8010
LF-5	A	8010			
P-6	SA	8010			

Key: Q = Quarterly 8010 = EPA Method 8010 or equivalent
SA = Semi-Annually 8020 = EPA Method 8020 or equivalent
A = Annually 8240 = EPA Method 8240 or equivalent
8010/8240 = EPA Method 8240 in lieu of 8010 for fourth quarter

I, Steven R. Ritchie, Executive Officer, hereby certify that the foregoing Self-Monitoring Program has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with site cleanup requirements established in Regional Board Order No. 95-140, and was adopted by the Board on June 21, 1995.

Steven R. Ritchie
Executive Officer